

IOT BASED GROUND WATER MONITORING SYSTEM WITH CLOUD-BASED MONITORING USING MACHINE LEARNING

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Received: 07 May 2022

Accepted: 11 May 2022

Published: 19 May 2022

ABSTRACT

The vaticination of groundwater position is important for the use and operation of groundwater coffers. In this paper, the artificial neural networks (ANN) were used to prognosticate groundwater position in the mohanlalganj of lucknow in India. The first step was an bus-correlation analysis of the groundwater position which showed that the yearly groundwater position was time dependent. An bus- retrogression type ANN (ARANN) model and a retrogression- bus-retrogression type ANN (RARANN) model using back-propagation algorithm were also used to prognosticate the groundwater position. Yearly data from June 2018 to April 2022 was used for the network training and testing. The results show that the RARANN model is more dependable than the ARANN model, especially in the testing period, which indicates that the RARANN model can describe the relationship between the groundwater change and main factors that presently impact the groundwater position. The results suggest that the model is suitable for prognosticating groundwater position oscillations in this area for analogous conditions in the future.

KEYWORDS: *Groundwater, Ground Water Monitoring*